

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 May 2002 (23.05.2002)

PCT

(10) International Publication Number
WO 02/39950 A2

- (51) International Patent Classification⁷: **A61K**
- (21) International Application Number: PCT/US01/43488
- (22) International Filing Date:
16 November 2001 (16.11.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/716,182 17 November 2000 (17.11.2000) US
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— *without international search report and to be republished upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 02/39950 A2

(54) Title: ANHYDROUS COSMETIC COMPOSITION AND GEL VEHICLE

(57) Abstract: There is provided a novel cosmetic composition having an anhydrous gel vehicle. The vehicle includes a polyol and a carbomer. The vehicle can suspend solids in both high weight percentages and large particle sizes, while remaining stable and spreadable.

ANHYDROUS COSMETIC COMPOSITION AND GEL VEHICLE

BACKGROUND OF THE INVENTION

5 **1. Field of the Invention**

The present invention relates generally to a substantially anhydrous cosmetic composition. More particularly, the present invention relates to an anhydrous gel vehicle for a cosmetic composition that can suspend a large amount of solids in the composition.

10

2. Description of the Prior Art

Various forms of cosmetic compositions are known in the art. These composition forms include a cream, gel, lotion, powder and stick. Each form has different positive and negative attributes.

15 For example, a powder has a cool, silky feel, but may dehydrate the skin. Moreover, a loose powder can be unpleasant to use because of its propensity to spill or be carried into the air. A cream can be smooth and moisturizing, however it can feel heavy, greasy or oily. A gel can have a light, non-greasy feel, however it can take a long time to dry. Also, known
20 gels do not have the ability to suspend a large amount of solids therein.

Heretofore, there has been a need to provide an anhydrous cosmetic composition and gel vehicle that can suspend and dispense a large amount of solids and that performs like a standard moisturizing,

emollient cosmetic gel, rubs in completely and quickly, and provides an aesthetically appealing afterfeel.

SUMMARY OF THE INVENTION

5 It is an object of the present invention to provide a substantially anhydrous cosmetic composition and a gel vehicle therefor.

 It is another object of the present invention to provide such a vehicle that can suspend a large amount of solids of large and small particle sizes.

 It is still another object of the present invention to provide such a
10 composition and vehicle therefor that is translucent when applied to the skin.

 It is a further object of the present invention to provide such a composition and vehicle therefor that has good moisturization, good spreadability, and an aesthetically appealing look and feel.

15 These and other objects of the present invention are provided by a substantially cosmetic composition having an anhydrous gel vehicle. The anhydrous gel vehicle has a polyol base and a carbomer. The vehicle can suspend a large amount of solids or solid materials. Moreover, these solids or solid materials can be of large particle sizes. Nonetheless, the
20 composition remains stable and spreadable. In addition, the composition looks and feels like a standard lubricious emollient gel upon initial application, yet it may be rubbed in completely and quickly, and has a resultant soft, velvety afterfeel.

DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a substantially anhydrous cosmetic composition having an anhydrous gel vehicle. The vehicle includes a polyol and a carbomer. Significantly, such an anhydrous gel vehicle is combined with solids to form the cosmetic composition. These solids can be present in the composition in a large amount and/or in large particle sizes.

The anhydrous gel vehicle includes at least one polyol. Preferably, the polyol is present in an amount about 25 percentage by weight (wt%) to about 60 wt%, based on the total weight of the composition. The polyol forms a substantially translucent, thickened gel when combined with at least one carbomer. However, it is important to note that once solids, such as starches, are added to the vehicle, the composition is less translucent and even slightly opaque. However, once applied to the skin, the composition is again translucent.

Examples of polyols that can be used in the present invention include butylene glycol, dipropylene glycol, hexylene glycol, polyethylene glycol, propylene glycol or mixtures thereof. The preferred polyols are dipropylene glycol and polyethylene glycol. In a preferred embodiment, the vehicle contains a mixture of dipropylene glycol and polyethylene glycol. In an even more preferred embodiment, the vehicle contains a mixture of

approximately equal amounts of dipropylene glycol and polyethylene glycol, such as at about 25 wt% each.

The polyol, especially when the polyol includes dipropylene glycol, provides the desired feel to the resultant composition.

5 The carbomer is a stabilizer. It provides viscosity, spreadability, and film forming attributes to the composition. Carbomers that can be used in the present invention include carboxypolymethylene, low viscosity carbomers, and hydrophobically modified carbomers. Preferably, low viscosity carbomers have a viscosity from about 2000 centipoise (cps) to
10 7000 cps at 0.2% neutralized in water. Preferred carbomers are sold by Goodrich Specialty Chemicals, Cleveland, OH, under the tradenames Carbopol 141, Carbopol 934, Carbopol 941, Carbopol 1342, and Carbopol 2020 ED. The latter is an example of a hydrophobically modified carbomer.

 Preferably, the carbomer is present in an amount about 0.25 wt% to
15 about 1 wt%, more preferably about 0.3 wt% to about 0.8 wt%, and most preferably about 0.5 wt% of the total weight of the composition.

 One of the significant benefits of the anhydrous gel vehicle, and thus the composition, of the present invention is the ability to suspend large amounts of solids or solid materials. Such solids are preferably
20 incorporated into the composition in the form of one or more powders or particles. Moreover, the anhydrous gel vehicle can suspend the solids, yet still provide a translucent composition when applied to the skin.

Solids include corn starch, oat starch, colorant, pigment, mica, coated mica, silica, silicone powder, talc, and microcapsules. The microcapsules preferably microencapsulate one or more pigments and/or fragrances. The preferred solids are oat starch and corn starch. In an
5 alternative preferred embodiment, up to about 40% of the total amount of solids can be a pigment, a silicone powder or a colorant, instead of oat starch or corn starch.

Significantly, the composition of the present invention may have a percentage of solids up to about 50 wt%. Preferably, the composition has
10 solids in an amount about 15 wt% to about 50 wt% and, more preferably, about 25 wt% to about 35 wt% of the total weight of the composition. In addition, the particle sizes of the solids may be as large as about 200 microns. Preferably, the particle size is about 5 microns to about 50 microns. Although the inventors do not wish to be bound by any theory, it
15 is believed that solids, such as starches, wet out better in polyols as compared to water. This allows for the high "load" or solid content capacity.

A basic agent may be used to neutralize the carbomer and, thereby, adjust the viscosity of the composition. Preferably, the basic agent is an
20 organic base, such as bis (ETO 15M) cocyl amine, PEG-20 tallow amine, cyclohexylamine and any combinations thereof.

The basic agent is preferably present in an amount about 0.2 wt% to about 1.0 wt%, more preferably about 0.3 wt% to about 0.75 wt% of the

total weight of the composition. Most preferably, the basic agent is present in an amount about 0.5 wt% of the total weight of the composition.

The composition may have additional, most preferably anhydrous, solvents and/or emollients. These solvents and/or emollients modify the
5 feel of the composition on the skin.

Such anhydrous solvents include, but are not limited to, light esters, such as dioctyl succinate, capryl isostearate, and/or isopropyl isostearate; propoxylated alcohols, such as PPG-10 butanediol and/or PPG-14 butyl ether; a C1 to C6 linear or branched alcohol, such as alcohol SD 40B; and
10 PEG-300. Alcohol 40B is available through a number of sources, one of which is Grain Processing Corp. of Muscatine, Iowa. Preferably, the alcohol is SD 40B, and is an anhydrous alcohol.

The anhydrous solvents and/or emollients are preferably present in an amount from about 0 wt% to about 30 wt% of the total weight of the
15 composition. Preferably, the anhydrous solvents and/or emollients include an alcohol that is present in an amount up to about 20 wt% and more preferably about 10 wt% to about 20 wt%. The alcohol, in particular, has been found to reduce any oily or greasy feel to the composition, or from the composition when on the skin.

20 Other optional ingredients that may be included in the vehicle of the cosmetic composition of the present invention. The ingredient includes astringents, cooling agents, fragrances, and treatment actives, such as vitamin C. When used, the optional ingredients may be present in an

amount from about 0 wt% to about 30 wt% of the total weight of the composition.

Examples of suitable cooling agents are set forth in commonly assigned PCT WO 00/45815, which is incorporated herein by reference.

- 5 These include menthol, menthone glycerin acetal (available from Haarmann & Reimer GmbH under the trademark FRESCOLAT[®] MGA), menthyl lactate (available from Haarmann & Reimer GmbH under the trademark FRESCOLAT[®] ML), menthyl pyrrolidone carboxylic acid (PCA) (available from Quest International under the tradename QUESTICE L),
 10 and 3-1-methoxypropane-1,2-diol.

Example 1

The following is an example of the composition according to the present invention.

15	by Total Weight	Approximate Percent Range
	<u>Ingredient</u>	<u>of the Composition</u>
	dipropylene glycol	20 to 30
	polyethylene glycol	20 to 30
20	carboxypolymethylene	0.3 to 0.8
	solvent (alcohol SD 40B,	10 to 20
	PPG-10 butanediol,	
	dioctyl succinate, and	
	capryl isostearate)	
25	oat starch and corn starch	25 to 35
	bis ETO 15M cocyl amine	0.3 to 0.75
	microencapsulated fragrance	0 to 7
	Non-microencapsulated fragrance	0 to 7

Preferably, the composition is delivered from a pump. Accordingly, the composition has a viscosity in the range of about 1,500 centipoise (cps.) to about 26,000 cps. Preferably, the viscosity of the composition is about 3,000 cps to about 16,000 cps. If the viscosity is too high, the
5 composition may not dispense properly from the pump.

A composition within the foregoing formulation is a gel-type product that is substantially translucent on the skin. Significantly, the gel-type product contains a higher percentage of solids than previously possible in the art. In addition, it provides for larger particle sized particles to be
10 suspended in the vehicle. The composition of the present invention is preferably substantially anhydrous, and more preferably anhydrous. In particular, the composition includes less than about 3 wt%, and more preferably less than about 1 wt%, water when the solids include starches. More preferably, the composition includes no added water. Most
15 preferably, the composition is entirely anhydrous.

The composition of the present invention looks and feels like a standard lubricious emollient gel upon initial application. Yet, it may be rubbed in completely and quickly and has a soft, velvety afterfeel.

The present invention having been thus described with particular
20 reference to a preferred form thereof, it will be obvious that various changes and modifications may be made therein without departing from the spirit and scope of the present invention as defined in the appended claims.

WHEREFORE WE CLAIM:

1. A substantially anhydrous cosmetic composition comprising:

5 an anhydrous gel vehicle having a polyol and a carbomer;

and

one or more solids present in an amount at least about 10
wt% of the composition.
10
2. The composition of claim 1, wherein the composition is
substantially translucent when applied on skin.
3. The composition of claim 1, wherein said one or more solids
15 are suspended in said anhydrous gel vehicle.
4. The composition of claim 1, wherein said polyol is selected
from the group consisting of: butylene glycol, dipropylene glycol, hexylene
glycol, polyethylene glycol, propylene glycol, and combinations thereof.
20
5. The composition of claim 1, wherein said polyol comprises
dipropylene glycol.

6. The composition of claim 1, wherein said polyol comprises a mixture of dipropylene glycol and polyethylene glycol.

7. The composition of claim 1, wherein said polyol comprises a mixture of approximately equal amounts of dipropylene glycol and polyethylene glycol.

8. The composition of claim 1, wherein said polyol is present from about 25 wt% to about 60 wt% based on the total weight of the composition.

9. The composition of claim 1, wherein said carbomer is selected from the group consisting of: carboxypolymethylene, a low viscosity carbomer, a hydrophobically modified carbomer, and any combination thereof.

10. The composition of claim 1, wherein said carbomer comprises carboxypolymethylene.

11. The composition of claim 1, wherein said carbomer is present in an amount about 0.25 wt% to about 1.0 wt% by weight of the total weight of the composition.

12. The composition of claim 1, wherein said at least one or more solids is selected from the group consisting of: oat starch, corn starch, pigment, colorant, mica, coated mica, talc, silica, silicone powder, microencapsulated pigment, microencapsulated fragrance, and mixtures thereof.

13. The composition of claim 1, wherein said one or more solids comprises corn starch, oat starch, or a mixture thereof.

14. The composition of claim 1, wherein said one or more solids is present in an amount about 15 wt% to about 50 wt% based on the total weight of the composition.

15. The composition of claim 1, further comprising a basic agent.

16. The composition of claim 15, wherein the basic agent is selected from the group consisting of bis (ETO 15) cocyl amine, PEG-20 tallow, cyclohexylamine, and mixtures thereof.

17. The composition of claim 1, further comprising one or more additional ingredients selected from the group consisting of: astringent, cooling agent, fragrance, and treatment active.

18. A substantially anhydrous gel composition comprising

an anhydrous gel vehicle consisting essentially of:

5 one or more polyols,

at least one carbomer, and

a basic agent; and

10

one or more solids in an amount at least about 10 wt% based
on the total weight of the composition.

19. The composition of claim 18, wherein said one or more solids
15 comprises at least about 25 wt% based on the total weight of the
composition.

20. The composition of claim 18, wherein the composition is
substantially translucent.

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